

APPENDIX B

Puget Sound Chinook Population Information

**APPENDIX B – ADDITIONAL INFORMATION ON THE BIOLOGICAL AND HABITAT
CHARACTERISTICS OF PUGET SOUND CHINOOK POPULATIONS,
THEIR DISTRIBUTION, ASSOCIATED HATCHERY PROGRAMS**

This technical appendix presents additional data referenced in Section 3, Affected Environment. Tables B-1 through B-3 provide more detailed descriptions of chinook salmon populations, and their riparian habitats, including age composition, stock origin, spawning and juvenile migration timing, spawning location, and barriers to migration. Table B-4 presents detailed information on hatchery production of chinook salmon in Puget Sound basins.

Table B-5 is adapted from the Fishery Regulation Assessment Model (FRAM), the basis for estimates of fishery exploitation on chinook salmon populations.

FRAM predicts point estimates for fishery impacts by stock, for specific time periods and age classes. The model simulates chinook salmon fisheries over the course of one year. Fishery harvest rates and stock exploitation rates are predicted using “base period” coded-wire tag recovery data on chinook harvest by fishery. Chinook FRAM currently includes 32 stocks, representing Puget Sound, Columbia River, Oregon and Canadian chinook salmon. The model includes fisheries operating in southeast Alaska, Canada, Puget Sound, and off the coasts of Washington, Oregon, and California. Only Puget Sound chinook salmon stocks are presented in the summary table in this appendix.

Table B-6 summarizes data used to show the distribution of fishery mortality on Puget Sound chinook salmon populations. As discussed in Section 3, these impacts are estimated from recoveries of coded-wire tagged indicator stocks that are released from numerous locations throughout Puget Sound.

Appendix Table B-1a. Key life history traits of chinook salmon in the northern Puget Sound area of the affected environment.

RMP Management Unit	Population	Recovery Category	Race	Origin	Production Type	Juvenile Migration	Age of Smolts (% age 0 or 1)	Age @ Spawning (% return of given age)					Up-Stream Migration Timing (month. week)	Spawn Timing (month. week)
								1	2	3	4	5		
Nooksack Early Skagit Spring Skagit Summer / Fall Stillaguamish Summer / Fall Snohomish Summer / Fall	NF Nooksack	1	Sp	N	C		≥90	≤10	<1	4	75	20	3.4-7.3	7.4-9.4
	SF Nooksack	1	Sp	N	W		≤69	≥31	1	10	61	28	3.4-7.4	8.1-10.1
									10	73	2			
	Upper Sauk	1	Sp	N	W	May-June	55	45					4.2-7.1	7.2-9.4
	Suiattle Spr	1	Sp	N	W	May -June	18-53	47-82	1	8	43	47	4.2-7.1	7.2-9.4
	Upper Cascade	1	Sp	N	W	May- June							4.2-7.1	7.2-9.4
	Lower Sauk	1	Su	N	W								6.2-8.1	8.2-10.2
	Upper Skagit MS / Tribs.	1	Su	N	W								6.1-8.1	8.2-10.2
	Lower Skagit MS / Tribs.	1	Fa	N	W								7.1-9.1	9.2-10.4
	Stillaguamish	1	Su	N	C	Mar-June	97	3	4	30	59	7	6.1-8.1	8.2-10.1
	Stillaguamish	1	Fa	Unk.	W								8.4	9.1-10.4
	Snohomish	1	1	Su-Fa	N	W	Apr-July						8.1-9.1	9.2-11.2
	Wallace R.	2	2	Su - Fa	M	C								
	Bridal Veil Cr.	1	1	Fa	N	W	Apr-July							

Abbreviations: **Population** NF = North Fork SF = South Fork **Recovery Category** 1= Genetically unique indigenous population present. 2 = Indigenous population no longer present but natural production possible. 3. No historically self-sustaining natural population **Race** Sp = Spring Su = Summer Fa = Fall **Origin** N = Natural C = Composite of Hatchery and Natural. **Production Type** W = Wild C = Composite of Hatchery and Wild **Status** C= Critical D = Depressed H = Healthy U = Unknown

Sources: **Stock Origin:** Washington Department of Fisheries, 1993. **Smolt Migration:**, Appendix A Myers et al. 1998. Age at Smolting, Appendix A Myers et al.; Age at Maturation, Appendix B Myers et al. 1998; **Fresh Water Entry:** Table 1 Myers et al. 1998.; **Spawn Timing:** Table 1 Myers et al. 1998 **Spawning Location / Description:** Puget Sound Indian Tribes and Washington Department of Fish and Wildlife, 2003; Washington Department of Fisheries, 1993. Note: Spawners have been transported above Sunset Falls, a natural barrier, since 1958.

Appendix Table B-2a. Factors limiting natural chinook production in Puget Sound watersheds.

Basin / Stock Group	Status	Habitat Factors Affecting Stock Status				
		Dams (River Mile Location / Miles Habitat Lost)	Riparian Habitat	Flow / Water Temp	Estuary Habitat	Hatchery Influence
Nooksack						
NF Nooksack Early	Critical		1		1	4
SF Nooksack Early	Critical		1, 2		1	
Skagit		RM 97 / Unknown				
Upper Skagit Summer	Healthy		1, 2		2	
Lower Skagit Fall	Depressed		2		2	2
Lower Sauk Summer	Depressed		1		2	3
Upper Sauk Spring	Healthy		1		2	2
Suiattle Spring	Depressed		1		2	
Upper Cascade Spring	Unknown				2	
Stillaguamish						
Stillaguamish Summer	Depressed		1, 2		2	4
Stillaguamish Fall	Depressed		1, 2		2	
Snohomish						
Snohomish Summer	Depressed	Sultan River RM 17 / 20	1, 2		1	
Wallace Summer / Fall	Healthy				1	1
Snohomish Fall	Depressed		1, 2		1	
Bridal Veil Creek Fall	Unknown		1, 2		1	

Notes	Sources
Dams: Location of Dam (Rivermile) / estimated miles of lost spawning habitat.	S.P. Cramer and Associates 1999.
Riparian Habitat: Riparian habitat affected by: Logging and associated road building including loss of large woody debris, siltation, and erosion 2. Diking and channel modification 3. Other land development practices and agriculture.	Pacific Fishery Management Council 1999. Puget Sound Indian Tribes and Washington Department of Fish and Wildlife 2003. Washington Department of Fisheries 1993.
Flow / Water Temperature: 1. Loss of habitat from water diversions, dewatering of spawning redds; 2. Elevated stream temperatures from low flows due to diversion or runoff modification.	Pacific Fishery Management Council 1999. Puget Sound Indian Tribes and Washington Department of Fish and Wildlife 2003. Washington Department of Fisheries 1993.
Estuary Habitat: Habitat loss or degradation due to: 1. port or industrial development 2. Agriculture, forestry, or urbanization.	Pacific Fishery Management Council 1999. Puget Sound Indian Tribes and Washington Department of Fish and Wildlife 2003. Washington Department of Fisheries 1993. S.P. Cramer and Associates 1999.
Hatchery Influence: 1. Production hatchery using out-of-basin stock; 2. Production hatchery using within-basin stock; 3. Supplementation hatchery or indicator stock program; 4. Supplementation hatchery essential for recovery.	Pacific Fishery Management Council 1999. Puget Sound Indian Tribes and Washington Department of Fish and Wildlife 2003. Washington Department of Fisheries 1993.

Appendix Table B-2b. Factors limiting natural chinook production in Puget Sound watersheds.

Basin / Stock Group	Status	Habitat Factors Affecting Stock Status				
		Dams (River Mile Location / Miles Habitat Lost)	Riparian Habitat	Flow / Water Temp	Estuary Habitat	Hatchery Influence
Puyallup						
White Spring	Critical	RM 23.4	1, 2, 3	1	1	4
White Summer / Fall	Unknown		1, 2, 3	1	1	
Puyallup Summer / Fall	Unknown	RM 41.7 / 10			1	1
Nisqually						
Nisqually Summer / Fall	Healthy	RM 26 / RM 43 / 30			1	1
South Sound						
South Sound Tributaries Summer / Fall	Healthy				1	1
Hood Canal						
Hood Canal Summer / Fall	Healthy		1,2,3			
Skokomish River		RM 21 / 13	1	1		1 (mixed origin)
Juan de Fuca Strait						
Dungeness Spring / Summer	Critical		1,2,3	1,2		4
Elwha / Morse Creek Summer / Fall	Healthy	RM 4.9 and 13.4 / 35 main and 35 tributaries	1	2		2

Notes	Sources
Dams: Location of Dam (Rivermile) / estimated miles of lost spawning habitat.	S.P. Cramer and Associates. 1999
Riparian Habitat: Riparian habitat affected by: Logging and associated road building including loss of large woody debris, siltation, and erosion 2. Diking and channel modification 3. Other land development practices and agriculture.	Pacific Fishery Management Council 1999. Puget Sound Indian Tribes and Washington Department of Fish and Wildlife 2003. Washington Department of Fisheries 1993.
Flow / Water Temperature: 1. Loss of habitat from water diversions, dewatering of spawning redds; 2. Elevated stream temperatures from low flows due to diversion or runoff modification.	Pacific Fishery Management Council 1999. Puget Sound Indian Tribes and Washington Department of Fish and Wildlife. 2003. Washington Department of Fisheries 1993.
Estuary Habitat: Habitat loss or degradation due to: 1. port or industrial development 2. Agriculture, forestry, or urbanization.	Pacific Fishery Management Council 1999. Puget Sound Indian Tribes and Washington Department of Fish and Wildlife. 2003. Washington Department of Fisheries 1993. S.P. Cramer and Associates 1999.
Hatchery Influence: 1. Production hatchery using out-of-basin stock; 2. Production hatchery using within-basin stock; 3. Supplementation hatchery or indicator stock program; 4. Supplementation hatchery essential for recovery.	Pacific Fishery Management Council 1999. Puget Sound Indian Tribes and Washington Department of Fish and Wildlife 2003. Washington Department of Fisheries 1993.

Appendix Table B-3a. Hydrological and spawning area profiles of chinook spawning basins in northern Puget Sound.

Watershed Tributary	Area (mi ²)	Avg. Elev. (ft.)	Chinook Spawning Tributaries	Spawning Miles Used	Upstream Migration Barriers		
Nooksack	795	2208		90.6	Barrier	RM	Passage
NF Nooksack			Boulder, Canyon, Cornell, Deadhorse, Glacier, Kendall, Maple and Racehorse Creek	49.8	Nooksack Falls	65	No
SF Nooksack			Hutchinson and Skookum Creek	40.8			
MF Nooksack				7.0	Bellingham Water Diversion	7.2	No
Skagit	447	1128					
Lower Skagit			Bacon, Carpenter, Day, Diobsud, Finney, Goodell, Illabot, Jackman, Jones, Mannser, Morgan, Nookachamps Creek; Baker River, McLeod Slough	53.4	Lower Baker Lk. Upper Baker Lk.	1.1 9.3	T&H
Sauk			Suiattle, N.F. Sauk, South Fork Sauk, Whitechuck River; Clear and Dan Creek	97.8			
Suiattle			Big, Buck, Downey, Lime, Milk, Straight, Sulphur, and Tenas Creek	42.7			
Upper Skagit	1630 ¹	4002	Goodell, and Illabot Creek; Cascade River	51.4	Gorge	96.6	No
Stillaguamish	704	1792		132.8			
NF Stillaguamish	284			40.3			
SF Stillaguamish	255		Canyon and Jim Creek	46.2			
Snohomish	278	518					
Skykomish	853	2769	Sultan and Wallace R., Proctor, Deer, Elwell and Woods Cr.	159.6	Sultan R. Water Diversion	9.7	No
NF Skykomish	147			14.0			
SF Skykomish	362		Foss, Miller and Beckler River; Money and Bridal Veil Cr.	44.0	Sunset Falls		Yes
Snoqualmie	693	2136	Raging and Tolt River; Tokul Creek		Snoqualmie Falls Tolt R. S. Fk	8.4	No

Sources: **Area and Elevation**; USGS data from University of Montana Environment Statistics Group, Hydrological Research Project (website). **Spawning Tributaries and Use**; S.P. Cramer and Associates, 1999. Washington Department of Fisheries, 1993; **Migration Barriers**; S.P. Cramer and Associates, 1999. Myers et al. 1998.

Appendix Table B-3b. Hydrological and spawning area profiles of chinook spawning basins in southern Puget Sound, Hood Canal and Strait of Juan de Fuca.

Watershed Tributary	Area (mi ²)	Avg. Elev. (ft.)	Chinook Spawning Tributaries	Spawning Miles Used	Upstream Migration Barriers		
Lake Washington	619	898	Issaquah Creek and Northern Tributaries	116.6	Barrier	RM	Passage
Cedar River	188			22.6	Ballard Locks	0	Yes
Duwamish / Green	487	1671	Soos, Crisp, May and Newaukum Creek	110.8	Landsburg Diversion	21.3	No
Puyallup	996	2892	Clark, Fennel and Kapowsin Creek South Prairie and Voight Creek Clearwater, Greenwater and West Fork White River; Boise and Blueberry Creek	146.8	Tacoma Water Diversion	60.3	No
Carbon				31.5	Electron Diversion	41.8	No
White				72.3	Buckley Diversion Mud Mountain	24.25 29.7	T&H T&H
Nisqually	726	1778	Mashel River; Ohop and Yelm Creek	87.5	Yelm Diversion La Grande	26.2 42.5	Ladder No
S. Sound Tribs Deschutes	168	829		44.5			
Skokomish	248	1896		51.5	Cushman No.2	17.3	No
NF Skokomish				29.0			
SF Skokomish				10.5			
Hood Canal	957	2333	Anderson, Big Beef, Eagle, Fulton, Lilliwaup, Misson, Stavis, and Tarboo Cr.; Big Quilcene, Dewatto, Dosewalips, Duckabush, Hamma Hamma, Little Quilcene, Tahuya and Union River	44.7			
Strait of Juan de Fuca			Canyon Creek; Graywolf River				
Dungeness / Elwha	1270	2674		31.0			
Dungeness	198						
Elwha	321			9.9	Elwha Glines Canyon	4.9 13.5	

Sources: **Area and Elevation:** USGS data from University of Montana Environment Statistics Group, Hydrological Research Project (website). **Spawning Tributaries and Use:** S.P. Cramer and Associates, 1999. Washington Department of Fisheries, 1993; **Migration Barriers:** S.P. Cramer and Associates, 1999. Myers et al. 1998.

Appendix Table B-4. Releases of juvenile hatchery chinook in Puget Sound 1991–2000 (thousands of fish).

		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Grand Total
S. Puget Sound Tribs	Fall	19,441	18,964	15,832	7,643	16,917	15,675	15,054	18,217	16,983	20,483	165,209
	Spring	-	-	-	339	337	341	343	339	203	371	2,273
Duwamish	Fall	12,149	5,302	6,067	4,424	7,915	5,886	6,403	4,786	4,348	3,971	61,250
Nooksack	Fall	5,990	9,030	5,889	7,156	7,221	6,353	4,284	2,166	1,800	1,200	51,089
	Spring	355	181	887	1,391	741	189	841	1,488	2,307	1,712	10,093
Hood Canal	Fall	1,779	2,213	1,257	863	1,862	3,768	5,265	3,959	3,980	3,402	28,348
	Spring	422	249	269	334	149	154	114	-	-	-	1,692
Nisqually	Fall	2,902	1,742	1,063	1,796	2,957	2,847	4,239	3,605	4,342	4,277	29,770
Other Puget Sound	Fall	3,491	2,041	2,357	1,995	1,935	2,717	3,507	2,576	2,704	2,859	26,181
	Spring	-	-	-	-	35	37	30	41	119	46	309
	Summer	-	-	-	-	-	-	-	-	117	185	303
Lake Washington	Fall	4,357	2,910	2,186	2,031	2,401	2,394	2,073	2,930	2,374	1,689	25,344
Elwha	Fall	2,622	3,967	632	1,955	2,443	2,579	2,375	2,176	4,025	1,803	24,577
Puyallup	Fall	3,275	2,008	2,829	2,207	3,059	2,757	1,899	1,978	2,012	2,006	24,029
Snohomish	Fall	915	430	294	709	1,468	1,361	1,376	-	-	-	6,552
	Spring	-	-	-	-	-	-	102	355	-	-	457
	Summer	212	305	618	1,004	281	1,196	1,390	1,450	778	2,224	9,457
Skagit	Fall	1,145	786	1,839	-	-	-	100	-	6	32	3,908
	Spring	419	285	642	1,043	503	484	380	388	394	398	4,935
	Summer	305	986	583	417	192	138	23	202	246	-	3,092
Strait of Georgia	Fall	555	412	420	1,379	1,375	965	1,005	2,105	998	-	9,215
White R.	Spring	451	1,115	1,027	789	728	836	867	1,107	395	684	8,001
Dungeness	Spring	-	-	-	-	-	18	1,776	2,050	1,775	1,501	7,121
Skokomish	Fall	198	1,713	294	-	-	348	96	312	234	-	3,195
W. Strait	Fall	194	223	191	235	326	319	83	240	186	279	2,277
Stillaguamish	Summer	-	202	100	235	344	35	218	95	-	367	1,596
Grand Total		61,178	55,063	45,275	37,943	53,190	51,397	53,845	52,565	50,328	49,489	510,272

Source: Pacific States Marine Fisheries Commission Regional Mark Information Service Database, December, 2002.

Appendix Table B-5. Summary of chinook exploitation rates from Fishery Regulation Assessment Model Runs (2002 Validation)

Total Adult Equivalent Mortality: All Fisheries													
	Skagit S/F Nat \1	Stillaguamish S/F	Snohomish S/F Nat \1	Nooksack Early \2	Skagit Spr Nat	White Spr \3	Nooksack S/F	Hood Canal S/F	JDF Tribs S/F	Lake Washington	Green River	Puyallup River	Nisqually River
1983	78%	73%	73%	49%	75%	59%	91%	81%	80%	82%	86%	81%	102%
1984	71%	61%	63%	43%	63%	41%	89%	69%	57%	76%	57%	68%	92%
1985	65%	46%	55%	43%	58%	33%	85%	70%	68%	79%	75%	76%	88%
1986	59%	62%	60%	43%	56%	44%	89%	82%	88%	69%	58%	70%	90%
1987	60%	47%	47%	42%	62%	35%	88%	84%	71%	79%	53%	82%	106%
1988	58%	57%	66%	50%	59%	35%	90%	75%	71%	87%	63%	77%	85%
1989	71%	47%	52%	37%	75%	36%	79%	77%	85%	77%	61%	72%	91%
1990	50%	47%	49%	32%	50%	33%	74%	71%	75%	69%	71%	66%	85%
1991	53%	38%	52%	36%	66%	48%	81%	70%	58%	82%	65%	66%	81%
1992	63%	42%	61%	34%	57%	32%	73%	79%	57%	81%	75%	68%	86%
1993	65%	28%	61%	30%	46%	24%	67%	63%	70%	61%	74%	70%	82%
1994	57%	29%	49%	28%	51%	49%	80%	69%	62%	38%	68%	69%	96%
1995	60%	43%	64%	24%	47%	34%	71%	37%	39%	31%	37%	76%	89%
1996	30%	34%	42%	18%	45%	33%	54%	33%	41%	28%	42%	67%	86%
1997	37%	31%	29%	22%	42%	22%	63%	40%	32%	29%	31%	60%	76%
1998	23%	15%	24%	15%	28%	19%	84%	16%	46%	15%	30%	35%	78%
1999	33%	20%	31%	17%	21%	28%	51%	48%	18%	20%	29%	74%	80%
2000	24%	27%	26%	17%	31%	19%	64%	51%	34%	42%	51%	72%	68%

1 Only the portion of Skagit and Snohomish fingerling and yearling stocks representing wild chinook are presented in this table.

2 "Nooksack Early" stock comprises an aggregation of North Fork and South Fork Early ("Spring" or "Native") stocks.

3 "White River Spring" stock is represented by fingerlings originating from the White River.

Source: Northwest Indian Fisheries Commission

Appendix Table B-6. Percent of harvest mortality occurring on Puget Sound chinook indicator stocks by fishing area.

Stock	Fishing Area	Catch Year									
		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Hood Canal Fall (George Adams Hatchery)	Alaska	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.2%	2.3%	0.7%
	Canada	30.7%	25.1%	54.3%	22.3%	41.0%	51.5%	25.5%	6.7%	26.5%	61.4%
	U.S. Troll	10.0%	21.7%	9.4%	0.0%	1.4%	14.1%	8.0%	5.0%	12.0%	5.9%
	U.S. Net	36.5%	8.9%	5.2%	44.4%	7.6%	0.0%	2.1%	5.5%	30.0%	0.0%
	U.S. Sport	22.7%	44.3%	31.1%	33.2%	50.0%	34.4%	64.4%	77.6%	29.1%	32.0%
Nisqually Fall	Alaska	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	1.0%	0.3%	0.4%	0.4%
	Canada	21.7%	23.4%	34.6%	13.9%	19.6%	9.2%	12.8%	6.3%	10.3%	29.6%
	U.S. Troll	20.1%	9.7%	4.7%	0.9%	3.8%	2.4%	1.3%	1.4%	5.4%	2.0%
	U.S. Net	24.3%	26.1%	30.2%	26.3%	39.9%	52.6%	29.8%	51.9%	48.5%	40.5%
	U.S. Sport	33.9%	40.8%	30.5%	59.0%	36.7%	35.4%	55.0%	40.1%	35.3%	27.5%
Nooksack Spring	Alaska	0.0%	4.9%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	4.3%
	Canada	75.6%	73.8%	66.7%	79.5%	62.9%	77.4%	48.3%	79.6%	74.2%	87.0%
	U.S. Troll	3.5%	1.9%	1.4%	0.4%	0.0%	1.9%	0.0%	0.0%	7.9%	0.0%
	U.S. Net	11.1%	0.7%	9.3%	11.4%	7.7%	0.0%	6.4%	1.8%	9.0%	0.0%
	U.S. Sport	9.8%	18.7%	22.6%	7.6%	29.4%	20.8%	45.2%	18.5%	9.0%	8.7%
Samish Fall	Alaska	0.0%	0.0%	0.0%	0.6%	0.3%	0.1%	1.6%	5.1%	5.4%	0.0%
	Canada	43.3%	38.7%	58.8%	45.3%	27.5%	18.4%	25.9%	22.4%	37.2%	91.4%
	U.S. Troll	12.5%	12.8%	5.1%	2.8%	4.8%	2.5%	1.7%	1.2%	2.5%	1.2%
	U.S. Net	28.5%	18.2%	19.2%	45.7%	35.1%	43.1%	52.7%	63.3%	49.1%	7.4%
	U.S. Sport	15.7%	30.3%	16.8%	5.6%	32.3%	35.9%	18.2%	7.9%	5.9%	0.0%
Skagit Spring	Alaska							0.4%	1.5%	2.3%	1.6%
	Canada							51.7%	48.0%	49.2%	62.0%
	U.S. Troll							0.0%	0.0%	0.6%	0.0%
	U.S. Net							2.6%	5.3%	3.4%	2.5%
	U.S. Sport							45.3%	45.2%	44.4%	33.9%
Sosuthern Puget Sound Fall	Alaska	0.7%	1.0%	0.5%	0.0%	0.6%	0.6%	1.6%	5.3%	2.1%	1.3%
	Canada	29.7%	33.0%	40.6%	36.9%	30.7%	23.5%	33.5%	16.8%	27.0%	43.0%
	U.S. Troll	16.4%	11.0%	7.9%	1.3%	4.2%	8.9%	5.3%	4.2%	11.6%	0.8%
	U.S. Net	33.8%	25.6%	20.2%	29.2%	16.1%	17.3%	8.7%	29.4%	31.9%	23.8%
	U.S. Sport	19.5%	29.4%	30.8%	32.6%	48.5%	49.7%	50.9%	44.3%	27.4%	31.0%
Stillaguamish Fall	Alaska	0.5%	0.0%	0.0%	7.9%	4.1%	2.0%	20.4%	48.5%	7.4%	30.6%
	Canada	41.1%	35.3%	54.9%	66.6%	52.8%	50.0%	41.0%	32.4%	73.1%	60.7%
	U.S. Troll	15.3%	6.3%	8.6%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	2.7%
	U.S. Net	17.3%	12.4%	2.0%	6.3%	3.5%	0.4%	3.4%	7.0%	1.4%	2.2%
	U.S. Sport	25.8%	46.0%	34.4%	19.3%	38.1%	47.6%	35.2%	12.1%	18.0%	3.8%
White River Spring	Alaska	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Canada	3.5%	12.8%	2.8%	4.9%	1.4%	2.2%	0.0%	0.0%	7.3%	16.6%
	U.S. Troll	6.6%	4.0%	6.0%	0.0%	0.0%	0.0%	0.0%	3.8%	0.0%	0.0%
	U.S. Net	15.6%	11.0%	6.7%	2.8%	2.1%	0.6%	6.6%	3.8%	0.0%	8.4%
	U.S. Sport	74.3%	72.2%	84.5%	92.3%	96.5%	97.2%	93.4%	92.3%	92.7%	75.0%

Source: Pacific Salmon Commission 2002.